The Horizon of the Sign and the Horizon of the Concept: Is Scientific Understanding Limited by Language?

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In academic practice, language is often treated as a neutral tool — a transparent medium through which ideas pass unchanged. But is it really that simple? Do we transmit knowledge as it is, or do we unknowingly reshape it each time we express it? There is a moment every researcher recognizes, and I have experienced it often, when an idea appears complete in the mind, yet it refuses to be said. You search for words, you revise, and still, something feels lost. At that point, a deeper question emerges: Is the limitation in the idea, or in the language?

Over time, through my work in literary and rhetorical studies, I reached a different conclusion: language is not a medium of thought — it is a condition for it. The terms we select, the concepts we define, and the structures we use do not merely describe knowledge; they shape it. This becomes clearer in translation, where concepts do not travel intact but shift: their center of gravity changes, their meaning evolves, and their boundaries adjust. This occurs not because translation fails, but because each language sees the world differently. Which leads to a fundamental question: Can science ever be truly universal if it is always born within a language?

This concern is not new. In the Arabic intellectual tradition, the relationship between expression and meaning was deeply examined,

grounded in the understanding that meaning does not exist outside language — it emerges within it. We cannot separate what we know from how we express it. But the insight runs deeper, extending beyond academic discourse into a shared human intuition that knowledge begins in language and is fundamentally shaped by it. This foundational role of the word is reflected in the primordial declaration, "*In the beginning was the Word,*" understood not merely as a metaphor but as a vision of existence itself. It resonates equally with the primary gateway to consciousness in the Divine command of the Qur'anic tradition: "Read!" (*Iqra'*), which signifies not a technical act, but a transformative awakening into awareness. While these are not scientific proofs, they serve as powerful reminders that language is foundational to meaning.

With time, I came to see that this is not a choice between knowledge and language, but an ongoing interaction between them; knowledge opens the horizon of discovery, while language defines the horizon of expression, and between them, scientific understanding takes form. In today's multilingual world, this insight becomes essential, inviting us to ask how many scientific disagreements are actually linguistic misunderstandings, and how many "truths" are shaped by the limits of our terminology. The conclusion I find most compelling is this: science is not a neutral reading of reality. It is a human attempt to understand the world through words—an attempt limited, yet strengthened, by those very limits. We do not think first and then speak; we think within language, and through it, understanding becomes possible.